|   |               |             |              |          |          |          |           |            |          |           |   |   | 09/447,284 |          |                 |           |          |                |          |            |          |           |           | CAO ET AL.   |            |          |          |          |          |          |           |                   |   |          |
|---|---------------|-------------|--------------|----------|----------|----------|-----------|------------|----------|-----------|---|---|------------|----------|-----------------|-----------|----------|----------------|----------|------------|----------|-----------|-----------|--------------|------------|----------|----------|----------|----------|----------|-----------|-------------------|---|----------|
|   |               |             |              |          |          |          |           |            |          |           |   |   |            |          | Examiner        |           |          |                |          |            |          |           |           |              | <b>A</b>   | Art Unit |          |          |          |          |           |                   |   |          |
|   |               |             |              |          |          |          |           |            |          |           |   | Ш |            |          |                 |           | N        | ghi            | Н        | <u>. L</u> | У        |           |           |              |            |          | 2        | 68       | 6        |          |           |                   |   |          |
|   |               |             | <b>√</b>     | Rejected |          |          |           | ] .        |          | _         | (Through numeral) Cancelled N Non-Elected |   |            |          |                 |           |          |                |          | A          | Appeal   |           |           |              |            |          |          |          |          |          |           |                   |   |          |
|   |               |             | =            | A        | MIO      | we       | d         |            |          | ÷         |   |   | Re         | estri    | cte             | d         |          |                |          | ı          | ln       | iter      | fere      | nce          |            | 0        |          | 0        | bje      | cte      | ed .      |                   |   |          |
|   | Cla           | laim Dat    |              |          |          | e        |           |            |          | Claim     |   |   |            |          |                 | _         | Date     |                |          |            |          | CI        | Claim     |              |            | Date     |          |          |          |          |           | $\neg$            |   |          |
|   | _             | al          | 2            |          |          |          |           |            |          |           | •   |   |            | al       |                 |           |          |                |          |            |          |           |           |              | a          |          |          |          |          |          |           | $\Box$            | $\top$  | 7        |
| • | Final         | Original    | 2/25/05      |          |          |          |           |            |          |           |   |   | Final      | Original |                 |           |          |                |          |            |          |           |           | Final        | Original   |          |          |          |          |          |           |                   |   |          |
|   |               | (1)         | V            |          |          |          |           |            |          |           |   |   |            | 51       |                 |           |          |                |          |            |          |           |           |              | 101        |          |          |          |          |          |           |                   | 工   | ゴ        |
|   |               | 2           | $\bigvee$    | 1        | Н        |          | <u> </u>  | <u> </u>   | ļ        |           |   |   | <u> </u>   | 52       | <b>Ļ</b>        | Ш         |          |                | 4        | $\dashv$   | 4        | _         | _         |              | 102        | _        | <u> </u> |          | L        |          |           | $\square$         | _   | 7        |
|   |               | 3           |              | }        | $\vdash$ | $\dashv$ | H         | H          | ┝        |           |   |   | <u> </u>   | 53<br>54 | ┢               | Н         |          | $\dashv$       | $\dashv$ | -          |          |           |           |              | 103<br>104 | ┝        | ┝        | ┝        | -        |          | -         | $\vdash$          | +   | $\dashv$ |
|   |               | 5           | Ň            | 一        | $\vdash$ |          | Н         |            | ╁╴       |           | _   |   | <u> </u>   | 55       | $\vdash$        | Н         | -        | $\dashv$       | ┪        | $\dashv$   | $\dashv$ | -         | $\dashv$  |              | 105        |          |          | $\vdash$ | -        | Н        | -         | $\vdash$          | +   | $\dashv$ |
|   |               | 6           | <b>*</b>     |          |          |          |           |            |          |           |   |   |            | 56       |                 |           | $\neg$   | 十              | ┪        | _          | 寸        | $\neg$    | $\dashv$  |              | 106        |          |          |          | <u> </u> |          | $\exists$ | П                 | $\top$  | 7        |
|   |               | 7           |              |          | П        |          |           |            |          |           |   |   |            | 57       |                 |           |          |                |          |            |          |           |           |              | 107        |          |          |          |          |          |           |                   | 工   | _        |
|   |               | 8           |              | <u></u>  |          | _        | Щ         | <u> </u>   | L        |           |   |   |            | 58       | Ш               |           | _        | _              | 4        | _          | _        |           |           | L            | 108        |          |          |          | <u> </u> | Ш        |           | Ш                 | $\dashv$  | _        |
|   |               | (9)<br>10   | X            | <u> </u> | $\vdash$ | $\dashv$ | Н         | <u> </u>   | -        | -         |   |   | <u> </u>   | 59<br>60 | $\vdash$        |           | $\dashv$ | +              | $\dashv$ | -          | $\dashv$ | -         | _         | <u> </u>     | 109<br>110 | <u> </u> |          | -        | <u></u>  | _        |           | $\vdash$          | +   | 4        |
|   |               | 11          | ×            | -        | ┤┤       | ᅥ        | Н         | ┢          | ⊢        | <u> </u>  |   |   |            | 61       | H               | H         | $\dashv$ | +              | ┥        | $\dashv$   | $\dashv$ | ┪         | $\dashv$  | -            | 111        | $\vdash$ |          | -        | ⊢        |          | $\dashv$  | $\vdash$          | +   | $\dashv$ |
|   |               | 12          |              | _        | $\Box$   | T        | Н         | -          |          |           |   |   |            | 62       | $\vdash$        | Н         | 一        | +              | ┪        | 7          | =f       | _         | _         |              | 112        |          |          |          | $\vdash$ | Н        | $\dashv$  | $\vdash$          | $\dashv$  | -        |
|   |               | 13          |              |          |          |          |           |            |          |           |   |   |            | 63       |                 |           |          |                |          |            |          |           |           |              | 113        |          |          |          |          |          |           |                   | $\perp$   | ╛        |
|   |               | (14)        | V            | _        | Ш        |          | Ш         | L          | _        | Ш         |   |   |            | 64       |                 |           |          | $\Box$         |          | _[         | $\Box$   |           |           |              | 114        |          |          |          |          |          |           | П                 | $\Box$  | $\Box$   |
|   | -             | (15)<br>16  | $\bigvee$    | -        | $\vdash$ | $\dashv$ |           | <u> </u>   | _        | Н         |   |   |            | 65       | Н               | $\square$ |          | $\dashv$       |          | -          | $\dashv$ | 4         | _         |              | 115        | _        |          | ļ        | L.       |          |           | $\vdash \dashv$   | _   | _        |
|   |               | 17          |              |          | $\vdash$ | -        | -         |            | ⊢        | $\vdash$  | _   |   |            | 66<br>67 | $\vdash$        |           | $\dashv$ | $\dashv$       | 4        | $\dashv$   | $\dashv$ | $\dashv$  |           | $\vdash$     | 116<br>117 | $\vdash$ |          | H        | -        |          |           | Н                 | $\dashv$  | 4        |
|   |               | 18          |              |          | Н        | -        | $\vdash$  |            | $\vdash$ | Н         | _   |   |            | 68       | $\vdash$        | $\vdash$  | $\dashv$ | $\dashv$       | $\dashv$ | $\dashv$   | $\dashv$ | -         | $\dashv$  |              | 118        | $\vdash$ | $\vdash$ | $\vdash$ | -        |          |           | $\vdash$          | +   | $\dashv$ |
|   |               | (19)        | V            | 7        | İΠ       | ᅵ        |           |            |          | H         |   |   | _          | 69       | П               |           | _        | 寸              | 7        |            | 1        | 寸         | _         |              | 119        | $\vdash$ |          |          | H        | _        | $\dashv$  | $\Box$            | 十   | -        |
|   |               | 20          | V            |          |          |          |           |            |          |           |   |   |            | 70       |                 |           |          | 工              |          |            |          |           |           |              | 120        |          |          |          |          |          |           |                   | 士   | コ        |
|   |               | 21          |              |          |          | _        |           |            | <u>_</u> | Ш         |   |   |            | 71       | Ш               | $\Box$    | $\dashv$ |                | _        |            |          | $\perp$   | 4         |              | 121        |          |          |          |          |          |           | $\square$         |   |          |
|   |               | 22<br>23    |              |          | H        | _        |           |            | -        | Н         | _   |   |            | 72       | Н               | $\dashv$  | -        | $\dashv$       | 4        | 4          | $\dashv$ | $\dashv$  | 4         |              | 122        | ļ.,      |          | L        |          | Ц        |           | $\dashv$          |   | _        |
|   |               | (24)        |              | H        | H        | $\dashv$ |           |            |          | Н         | $\dashv$                                  |   |            | 73<br>74 | Н               | -         | -        | -              | +        | $\dashv$   | $\dashv$ | -+        | $\dashv$  |              | 123<br>124 |          | Н        | H        | ├        | $\dashv$ | $\dashv$  | $\dashv$          | +   | $\dashv$ |
|   |               | (25)        | X            | r        | H        | -        | $\exists$ |            | ļ        | Н         |   |   | -          | 75       | Н               | $\dashv$  | ┰        | +              | $\dashv$ | $\dashv$   | $\dashv$ | $\dashv$  | -         |              | 125        | $\vdash$ |          | $\vdash$ | $\vdash$ | $\dashv$ |           | $\dashv$          | +   | $\dashv$ |
|   |               | 26          | ×            | П        | П        | 一        |           |            |          | П         | $\neg$                                    |   |            | 76       | Н               |           | _        | $\top$         | 7        | $\dashv$   | 十        | 7         |           |              | 126        |          |          |          | -        | $\vdash$ | $\dashv$  | $\dashv$          | +   | -        |
|   |               | 27          | 1            | Ĺ        |          |          |           |            |          |           |   |   |            | 77       |                 |           |          |                |          |            |          |           |           |              | 127        |          |          |          |          |          | 一         | T                 | $\neg$  | 7        |
|   |               | (28)        |              |          |          | _        |           | _          | _        | Ш         | _   |   |            | 78       | Ш               |           | $\Box$   |                |          | $\dashv$   | $\perp$  | $\perp$   |           |              | 128        |          |          |          |          |          | $\Box$    |                   | $\Box$  | _        |
| 4 |               | <u>(29)</u> | $\mathbf{M}$ |          |          |          |           |            | _        | -         | 4   |   |            | 79<br>80 | Н               | _         | 4        | _              | 4        | 4          | 4        | 4         | _         |              | 129        |          |          |          | Ш        |          | _         | $\dashv$          | 4   | 4        |
|   |               | 31          |              | Н        | $\vdash$ |          |           |            | -        | $\vdash$  | $\dashv$                                  |   |            | 81       | Н               | -         | $\dashv$ | -              | $\dashv$ | $\dashv$   | $\dashv$ | $\dashv$  |           |              | 130<br>131 | _        |          |          |          | $\dashv$ |           | $\dashv$          | +   | 4        |
|   |               | 32          |              | Н        | $\Box$   | 7        |           |            |          | $\vdash$  | $\dashv$                                  |   |            | 82       | Н               | $\exists$ | $\dashv$ | $\dashv$       | ┪        | $\dashv$   | $\dashv$ | $\dashv$  | $\dashv$  |              | 132        | -        |          |          | $\vdash$ | $\dashv$ | $\dashv$  | $\dashv$          | +   | $\dashv$ |
|   |               | 33          |              |          | П        | ╗        |           |            |          |           | ┫   |   |            | 83       | Н               |           | $\dashv$ | 十              | 1        | $\dashv$   | 7        | 十         | _         |              | 133        |          |          |          |          |          | 7         | $\dashv$          | +   | ┪        |
|   |               | 34          |              |          |          | $\Box$   |           |            |          |           |   |   |            | 84       |                 |           |          |                |          |            |          |           |           |              | 134        |          |          |          |          |          |           |                   |   | _        |
|   |               | 35          |              |          | $\Box$   | _        |           |            |          |           |   |   |            | 85       | Щ               |           | 4        | $\perp$        | _        | $\perp$    | $\perp$  | $\perp$   | _]        |              | 135        |          |          |          |          |          | $\Box$    | $\Box$            | $\perp$   |          |
|   |               | 36<br>37    |              | Ш        | $\vdash$ | $\dashv$ |           |            |          | $\vdash$  |   |   |            | 86       | $\sqcup$        | 4         | 4        | $\dashv$       | $\dashv$ | 4          | $\dashv$ | $\dashv$  | _         | <b></b>      | 136        |          |          | Ш        |          | _        | _         | $\dashv$          | $\bot$  | 4        |
|   |               | 38          | $\vdash$     | -        | $\dashv$ | $\dashv$ | $\dashv$  |            | $\vdash$ | $\vdash$  | $\dashv$                                  |   |            | 87<br>88 | ┝╌┤             | $\dashv$  | $\dashv$ | +              | $\dashv$ | +          | +        | $\dashv$  | $\dashv$  |              | 137<br>138 | $\vdash$ | _        | Н        |          |          | $\dashv$  | -                 | +   | -        |
|   |               | 39          | -            | $\vdash$ |          | 7        | _         |            |          | $\vdash$  | $\dashv$                                  |   |            | 89       | Н               | $\dashv$  | $\dashv$ | +              | +        | $\dashv$   | $\dashv$ | $\dashv$  |           |              | 139        | Н        |          |          | Н        | -        | $\dashv$  | $\dashv$          | +   | $\dashv$ |
|   |               | 40          |              | П        |          | 寸        | 寸         |            |          | $\Box$    | $\dashv$                                  |   |            | 90       | П               |           | 7        | $\top$         | 7        | 7          | 十        | _         | $\dashv$  |              | 140        |          |          | Н        |          | 寸        | $\dashv$  | $\dashv$          | +   | -        |
|   |               | 41          |              |          |          |          |           |            |          |           |   |   |            | 91       |                 |           |          | I              | 丁        |            |          |           |           |              | 141        |          |          |          |          |          | ╛         | 寸                 | 丁   |          |
|   |               | 42          |              | Ц        | $\Box$   | $\Box$   | [         |            |          | Ц         | _]  |   |            | 92       | П               | J         | $\bot$   | $\perp \Gamma$ | _[       | Ţ          | Ţ        | Ţ         | $\Box$    |              | 142        |          |          |          |          |          | $\Box$    | $\Box$            | 工   |          |
|   |               | 43          | Н            | $\Box$   | $\dashv$ | $\dashv$ | 4         | _          | Н        | $\square$ | _{  | į |            | 93       | $\vdash \vdash$ | $\dashv$  | $\dashv$ | +              | 4        | $\dashv$   | $\dashv$ | $\dashv$  |           | <b>  </b>    | 143        | Ш        |          | Щ        | Ц        | _        | _         | $\dashv$          | 4   | 4        |
|   |               | 45          | $\dashv$     | $\dashv$ | $\dashv$ | $\dashv$ | $\dashv$  | $\dashv$   | Н        | $\dashv$  | $\dashv$                                  |   |            | 94<br>95 | $\vdash$        | $\dashv$  | +        | +              | +        | +          | +        | +         | $\dashv$  |              | 144<br>145 | Н        | $\dashv$ | Н        | $\vdash$ | $\dashv$ |           | $\dashv$          | +   | -        |
|   | $\overline{}$ | 46          | $\dashv$     | $\dashv$ | $\dashv$ | +        | $\dashv$  | $\dashv$   | Н        | $\dashv$  | $\dashv$                                  |   |            | 96       | $\vdash$        | $\dashv$  | +        | +              | $\dashv$ | +          | +        | $\dashv$  | $\dashv$  | $\vdash$     | 146        | $\dashv$ | $\dashv$ | $\vdash$ | $\vdash$ |          | $\dashv$  | +                 | +   | $\dashv$ |
|   |               | 47          | $\Box$       | -        | $\dashv$ | $\dashv$ | ᅥ         | -          | H        |           | $\dashv$                                  | i |            | 97       | $\vdash$        | $\dashv$  | 十        | $\dashv$       | $\dashv$ | 十          | +        | $\dashv$  | $\exists$ |              | 147        | Н        | +        | $\dashv$ | $\vdash$ | ᅥ        | $\dashv$  | $\dashv$          | +   | $\dashv$ |
| Ì |               | 48          |              | J        |          |          |           |            |          |           |   | Ì |            | 98       |                 | _†        | _†       | 丁              |          | $\dashv$   | _†       | _         |           |              | 148        |          |          |          |          |          | $\dashv$  | $\dashv$          | +   | 7        |
| [ | ]             | 49          |              |          | $\Box$   | Į        | ┚         | $\Box$     |          |           | $\Box$                                    |   |            | 99       | П               |           | I        | ightharpoons   | $\Box$   |            | 1        | I         |           |              | 149        |          |          |          |          |          |           | $\Box$            | ightharpoons                                      | J        |
| l |               | 50          |              | <u>i</u> | $\sqcup$ |          |           | $_{\perp}$ |          |           |   |   |            | 100      | Ш               | $\perp$ 1 | $\perp$  |                | $\perp$  |            |          | $\perp 1$ | _]        | $oxed{\Box}$ | 150        |          | $\Box$   |          |          |          |           | $oldsymbol{\bot}$ | $oldsymbol{oldsymbol{oldsymbol{oldsymbol{\Box}}}$ | J        |

Application No.

Index of Claims

Applicant(s)